

REMARKS

There are now pending in this application Claims 1-19, of which Claims 1, 16, and 19 are independent. Claim 19 is newly added. No claims have been canceled.

In view of the above amendments and the following remarks, favorable reconsideration and allowance of the above application are respectfully sought.

There is accompanying this Amendment a Request for Permission to Amend the Drawings. This Request labels certain figures as prior art in accordance with the Examiner's requirements and also corrects a reference numeral in Figure 1.

As the Examiner will appreciate, the correction of the reference numeral in Figure 1 eliminates duplicate use of reference numeral "906". In addition, Applicants have amended the specification to include reference to reference numeral --907--, also as required.

Applicants have amended Claim 4 to address the objection based on a lack of proper antecedent basis and have further amended Claims 6 and 8 to more clearly recite that it is the structure of the claims which are being further limited. Withdrawal of the objections to those claims is respectfully sought.

Claims 7 and 8 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. In response, Applicants have amended Claim 7 to eliminate reference to the print medium being laminated and submit that such amendment addresses and overcomes the rejection under § 112.

Each of independent Claims 1 and 16 stands rejected under 35 U.S.C. § 102 as being anticipated by one or more of Kimura, et al., Kelly, Tung, et al., Uchida, and Matsuhashi.

Given the above amendments and for reasons which follow, those rejections are respectfully traversed.

Kimura, et al. is directed to a printing apparatus in which a vibrator is attached to the carriage on which the printing head is mounted. In Kimura, et al. there is a linear guide for the carriage and a vibration driven motor in which a vibrator goes straight ahead on a rail-shaped stator. The vibration of the vibrator 1 causes a rotation of the roller 17 which in turn rotates a feed roller and a delivery roller through use of a belt. The vibrator in Kimura, et al. guides the carriage for printing or vibrates the feed roller and delivery roller. In contrast, in the present invention as now set forth in the independent claims, the vibrating means vibrates the transporting means after the transporting means completes a transportation and before the printing means starts a printing operation. Thus, the vibration is not performed in order to cause a printing operation to start or for sub-scanning, but rather in order to allow a roller which stops at an unstable phase to rotate up to a stable phase. Thus the invention as now set forth in the independent claims is clearly distinguishable from Kimura, et al.

Kelly is directed to a printhead cartridge pivotably mounted to a carriage guide rod and which rests in contact and rides along a roller. In this reference, a pad 44 having a low friction is provided at a rear end of a bottom portion of a print head carriage 20 mounted on a roller 18. The print head carriage 20 is guided by a carriage guide rod 16 and the roller 18 allowing it to travel. In addition, Kelly references that a vibration is produced by a friction between the pad 44 and the roller 18 upon a printing operation. However, that vibration is understood to occur only in association with a printing operation.

Applicants respectfully submit that Kelly neither teaches nor suggests the invention as recited in each of the independent claims of the above application. In the present invention, the vibration is caused, not to perform a printing operation, but rather is performed before a printing operation starts and, as noted above, is provided in order to allow a roller which stops at an unstable phase to rotate to a stable phase. Again, as with Kimura, et al., Kelly does not teach or suggest the invention as now set forth in each of the independent claims of the above application.

Tung, et al. is directed to a media movement apparatus used to detect an edge of a unit of media in a media path in an ink jet printer using an optical sensor. With reference to column 2, line 49, et. seq., when the ink jet printer is inactive, the member 104 holds a pressure plate 102 down so that the paper 12 is not in contact with the roller 106. With power supplied to a solenoid coil 110, solenoid shaft 108 is pulled into solenoid coil 110, bias spring 112 is compressed and member 104 moves upward and out of contact with the input tray 14. Moving member 104 out of contact with input tray 14 permits a unit of paper 12 to move into contact with roller 106. Rotation of roller 106 will then move a unit of paper 12 into the media path. Thereafter, the solenoid coil 110 will not act when a printhead 303 performs a printing operation.

In contrast to Tung, et al., in the present invention, the vibration is not caused in order to perform a printing but is performed at a time after a sheet is transferred and before a printing operation starts or for a sub-scanning so as to allow a roller which stops at an unstable phase to rotate to a stable phase. Again, as with the other references discussed above, Tung, et al. does not teach or suggest the invention as now more clearly set forth in the independent claims of the above application.

Uchida is directed to a recording apparatus with an urging force controlling means which reduces or releases the urging force on the basis of a detection result from a detecting means, thereby eliminating the force of a pinch roller acting on the trailing end of a recording sheet. In Uchida, when a sensor detects that a recording sheet is conveyed up to a predetermined position disposed upstream of a position where the trailing end of the recording sheet leaves the pinch roller 5, a solenoid permits the pinch roller 5 to move upward to separate it from the recording sheet. This action eliminates a pressuring force in a downstream direction by the pinch roller 5 onto an upper surface of the trailing end of the recording sheet. Again, as with the other references discussed above, this is in contrast with the present invention which causes a vibration after a sheet is transferred and before a printing operation starts or for a sub-scanning, and is done in order to allow a roller which stops at an unstable phase to rotate to a stable phase.

The final applied reference to Matsushita is directed to an ink jet-printer and has a reflection-type optical sensor 231 that is disposed on a side surface of a carriage 202 for the purpose of detecting a width of the recording paper. On the basis of the detected width, a printing range is set to have a range wider than the paper width on both sides. Again, for reasons noted above with respect to the other applied references, the present invention as recited in the independent claims is clearly distinguishable from Matsushita since the present invention causes vibration, not for printing, but after a sheet is transferred and before a printing operation starts so as to allow a roller which stops at an unstable phase to rotate to a stable phase.

For the foregoing reasons, Applicants respectfully submit that each of independent Claims 1, 16, and 19 is distinguishable over the applied references. The remaining claims in the above application are dependent claims which depend either directly or indirectly

from either Claim 1 or 16 and are therefore patentable over the art of record for reasons noted above with respect to the independent claims. In addition, each recite features of the invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicants respectfully submit that all outstanding matters in the above application have been addressed and that this application is in condition for allowance. Favorable reconsideration and early passage to issue of the above application are respectfully sought.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L. Stahl', is written over a horizontal line.

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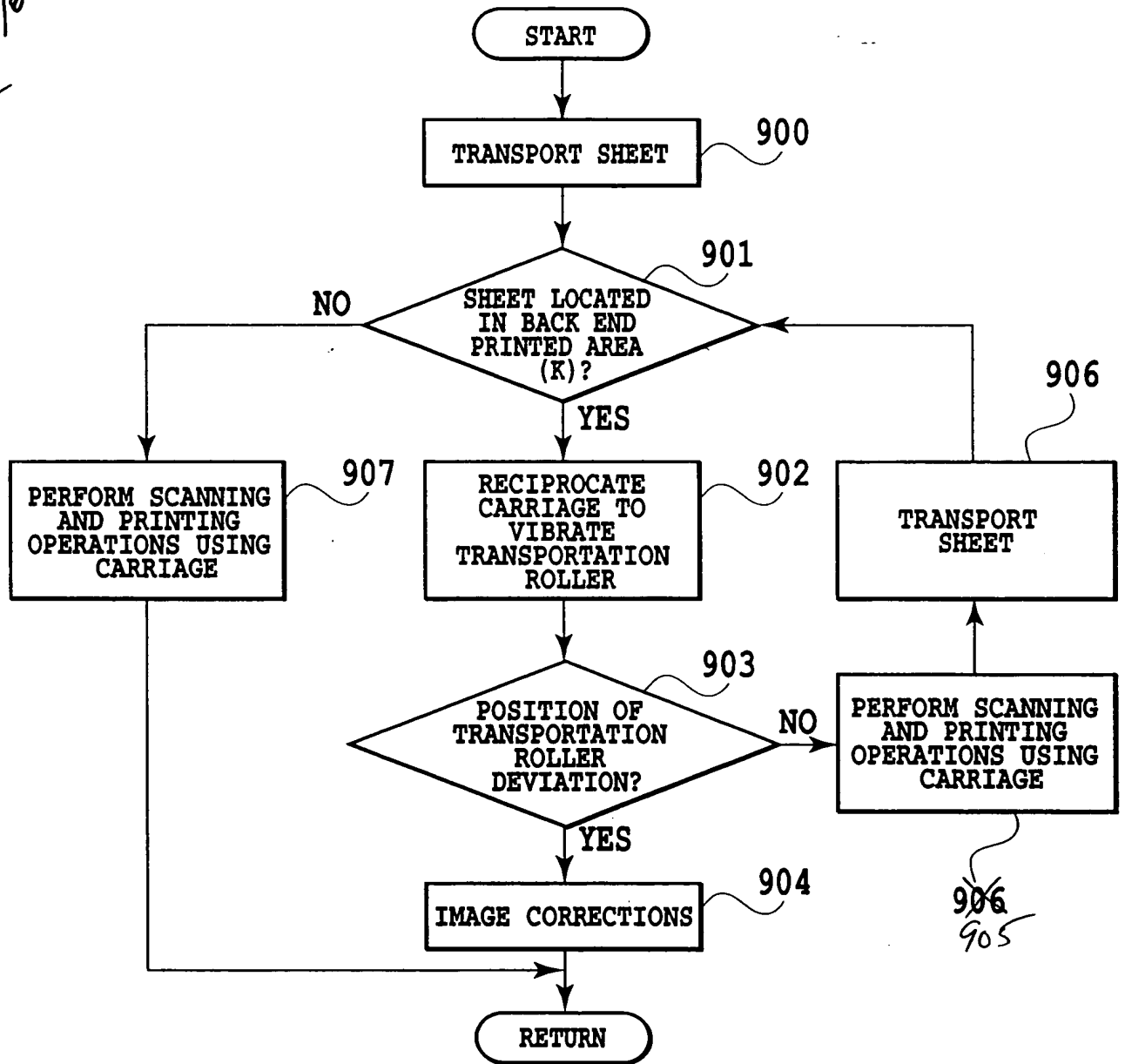


FIG.1



11/12

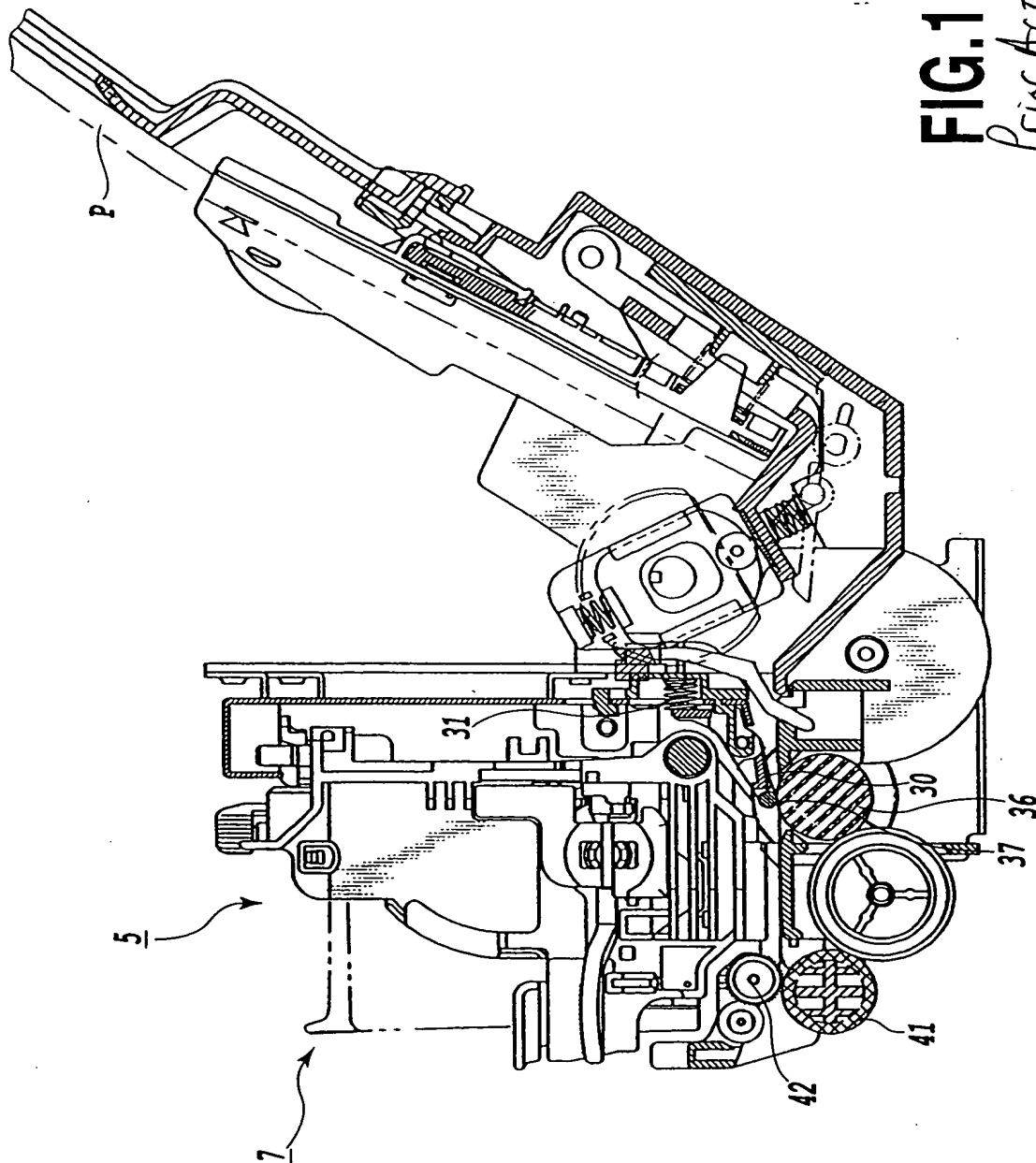


FIG. 11
Prior Art



12/12

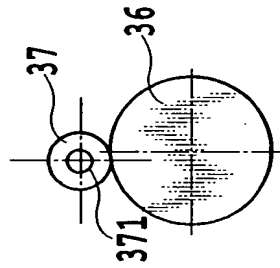


FIG. 12A
Prior Art

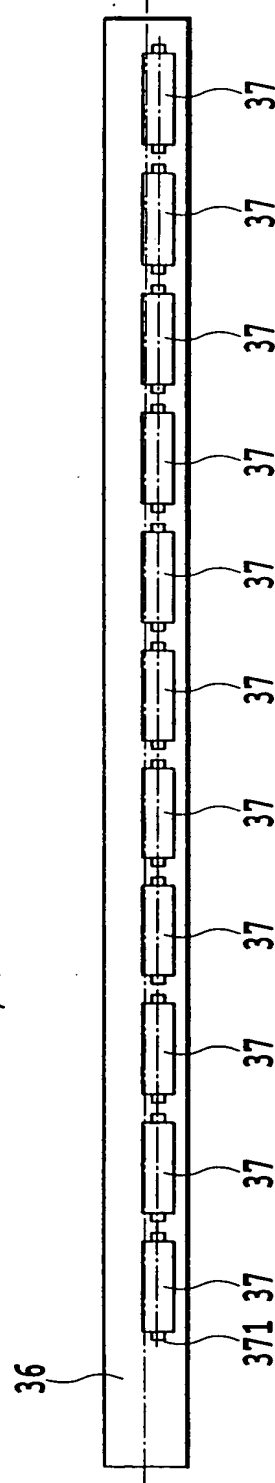


FIG. 12B
Prior Art